

BURNER WITH HIGH-EFFICIENCY ATOMIZATION

ABSTRACT OF THE DISCLOSURE

A burner has a nozzle formed of generally concentric inner and outer pieces. The inner piece defines a fuel conduit, and the outer piece defines an annular gas conduit which tapers down towards the outlet end of the nozzle. The inner piece has a rounded edge near the outlet end. The inner piece is longitudinally translatable, within a limited range of movement, relative to the outer piece, and can be locked into a desired position. The nozzle promotes efficient mixing of fuel and air (or oxygen) outside the burner. The stream of air creates a partial vacuum in the vicinity of the outlet end, serving to draw fuel out of the fuel conduit. Longitudinal adjustment of the inner piece allows the shape of the flame to be optimized. The burner can be used with virtually any fuel that can be provided in fluid form, whether solid, liquid or gas.